

Original Research Article**Histopathological Study of Surface Epithelial Tumours of Ovary at a Tertiary Care Hospital****Chidipudi Prasanthi^a, Prabhu M.^b, S.S Inamdar^c**¹Post Graduate ²Associate Professor ³Professor & HOD, Department of Pathology, S.Nijalingappa Medical College, Navanagar, Bagalkot, Karnataka-587101, India.**Abstract**

Background: Ovarian cancer accounts for 3% of all cancers in females. Ovarian Tumours are most common tumours of female genital tract. Ovarian cancer is leading cause of deaths among gynaecological cancers. The aim of the study was to find the incidence of surface ovarian tumor at the Department of Pathology, S Nijalingappa Medical College, Bagalkot.

Materials and Methods: This prospective study comprised of 82 primary ovarian tumours diagnosed in the department of pathology at SN Medical college, Bagalkot during the time period of 1st January 2016 to 30th June 2017. Records were retrieved from the departmental registers and were analyzed.

Results: Total 82 cases were studied in this duration of study period. Out of 82 cases majority were benign tumours (81.75), followed by malignant tumours (15.9%) and borderline tumours (2.4%) were found.

Conclusion: Most of the ovarian tumours in this study were surface epithelial tumours followed by germ cell tumours. Clinical features are variable. Histopathological examination is needed for proper diagnosis, treatment and for prognosis of the disease.

Keywords: Ovary; Benign; Malignant; Surface Epithelial Tumor.

Corresponding Author:**Prabhu Mural H.,**Associate Professor,
Department of Pathology,
S.Nijalingappa Medical College,
Navanagar, Bagalkot,
Karnataka-587101, India.**E-mail:**

prabhumural@yahoo.com

(Received on 01.02.2018,**Accepted on** 26.02.2018)**Introduction**

Ovaries, a paired organ of female reproductive system, are vital part of a woman's body. Shushruta has described ovarian tumours in his book "Shushruta and Ayurveda" [1]. Tumors of the ovary are amazingly diverse pathologic entities due to the three cell types that make up the normal ovary: the multipotential surface (coelomic) covering epithelium, the totipotential germ cells, and the multipotential sex cord/stromal cells.

Each of these cell types gives rise to different ovarian tumors [2]. Tumours of the ovary are common forms of neoplasia in women [3]. Such tumours can occur in all

age groups, beginning from intrauterine age to postmenopausal [4].

Surface epithelial tumours are the most commonly found type of ovarian tumors. Ovary being a common area of primary malignancy, metastasis may occur [5]. Among cancers of the female genital tract ovarian tumours are the third most common site of malignancy [6].

Ovarian carcinomas are considered to be the sixth most frequent cause of death from all cancers in women; 70% of female patients with ovarian tumors present during advanced stage disease [7,8].

The purpose of the study was to find the incidence of surface ovarian tumors at S. Nijalingappa Medical College, Bagalkot.

subjected to thorough gross examination according to the protocols. Slides were then studied microscopically. All details of the cases were collected from medical records.

Materials and Methods

The materials for the present study were ovarian tumour specimens received at the Department of Pathology, Shri S Nijalingappa Medical College, Bagalkot, diagnosed over a span of one and half year from January 2016 to June 2017 prospectively. Specimens were sent from the obstetrics and gynecology department of S Nijalingappa Medical College, Bagalkot. All the specimens were received at the histopathology laboratory in Department of Pathology. Clinical details were taken from the medical records of patients from HSK Hospital, Bagalkot. The specimen were received in the form of oophorectomy/ salphingoophrectomy (unilateral/ bilateral) / pan hysterectomy. Representative bits were taken and routinely processed with paraffin embedding. Thin sections were taken and were stained by hematoxylin and eosin. Specimens sent in 10% formalin were fixed and

Results

A total of 82 cases of ovarian tumours were studied over a period of one and half years duration (1st January 2016 to 30th June 2017). Among 82 cases of ovarian tumours 45 (54.7%) cases were surface epithelial tumours, 23 (28.1%) cases of germ cell tumour, 14 (17.2%) cases of sex cord stromal tumours were noted. Histomorphological features were studied and the tumours are classified according to WHO 2014 classification of ovarian tumours.

We included varied age group from 2nd decade to 7th decade patients. In the study we found ovarian tumour incidence was seen more in the age groups of 21-30 and 31-40 years. Among all the 45 cases of tumors, 38 were benign, 2 were borderline and 5 were malignant cases. Thus the benign surface epithelial tumors were the commonest with 84.44% followed by 11.11% malignant tumors, and 4.44% of borderline tumors. Out of the 45

Table 1: Age distribution of ovarian tumours

Age	Total number of tumors	Benign	Nature of Tumor Borderline	Malignant
11-20	3	3	0	0
21-30	13	12	1	0
31-40	13	11	1	1
41-50	11	7	0	4
51-60	4	4	0	0
61-70	1	1	0	0
Total	45	38	2	5

Table 2: Clinical presentation of ovarian tumor

Symptoms	Total	Benign	Type of tumor Borderline	Malignant
Mass p/a	23	18	0	5
Pain	31	26	2	3
Menst. Dist	12	11	1	0
Bowel Compl	2	1	0	1
Bladder Compl	1	1	0	0
Ascites	12	8	0	4
others	5	3	0	2

Table 3: Unilateral/ bilateral ovarian tumours

Side	No. of cases	Percentage (%)
Unilateral	43	95.55
Bilateral	2	4.44

Table 4: Type of ovarian tumours

Nature of Tumor	Frequency	Percentage (%)
Benign	38	84.44
Malignant	5	11.11
Border line	2	4.44
Total	45	100.0



Fig. 1: Serous cystadenocarcinoma Gross picture – Unilateral tumour with smooth external surface

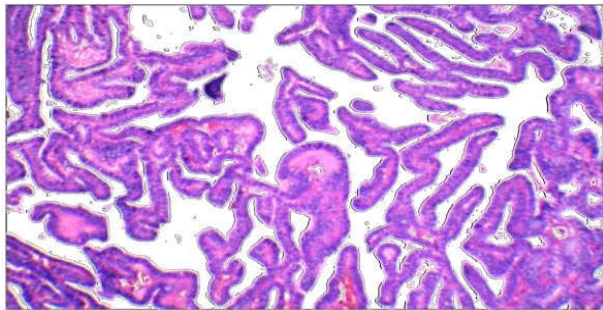


Fig. 2: Microscopy- Serous cystadenocarcinoma showing papillary projections lined by atypical cells. H&E 100x

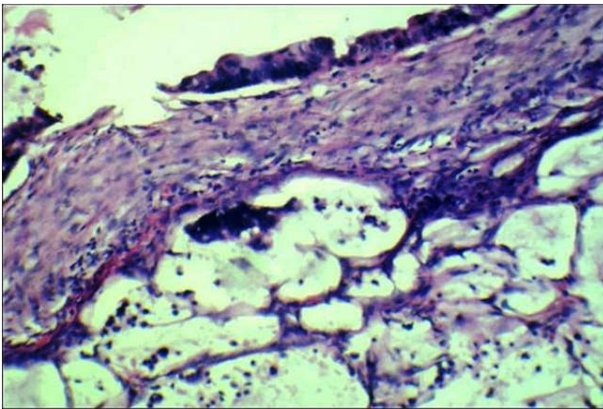


Fig. 3: Mucinous cystadenocarcinoma Microscopy showing tumour cells floating in large extracellular mucin lakes. H&E 100x

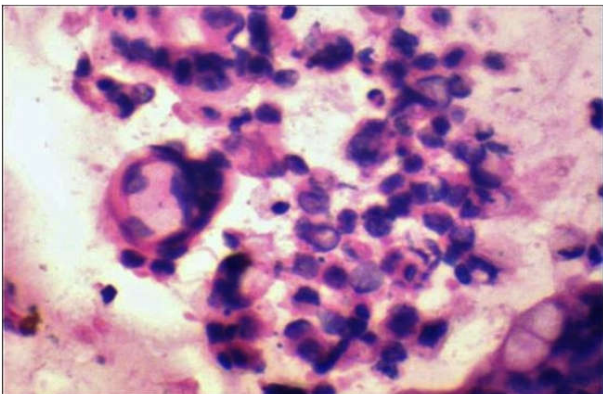


Fig. 4: Mucinous cystadenocarcinoma Microscopy showing atypical cells. H&E 400x



Fig. 5: Benign Brenner tumour Gross picture of Benign Brenner tumour

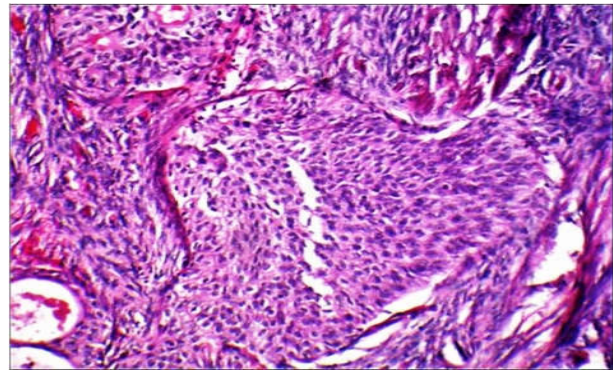


Fig. 6: Benign Brenner tumour Microscopy showing nests of transitional cells and fibrous stroma. H&E 100x

patients 29 were of <40 years of age, while the remaining 16 were above the age of forty. Among the all patients, 95.55% had unilateral ovarian tumors and only 4.44% had bilateral ovarian tumors. Out of 45 surface epithelial tumors 22 cases (26.8%) were serous cystadenomas. Majority of them were unilateral, all were unilocular with serous fluid.

Discussion

On the basis of four major types of tissue, primary ovarian neoplasm can be broadly classified as surface epithelialstromal tumors, germ cell tumors and sex cord – stromal tumors [2]. Surface epithelial tumors are the most common neoplasm of the ovary. They originate from the ovarian surface epithelium or its derivatives and occur in women of reproductive age and beyond. In the diagnosis of ovarian tumor, clinical data and gross features and detail microscopic examination is required. One of the most important clinical features is the age of the patient. About 80% of ovarian tumors are benign and occur in age between 20-45 years, the remaining 20% are malignant and are more common in older women between 45-65 years [2]. Surface epithelial tumors comprise 58% of all ovarian neoplasms and about 90% of malignant tumors in the Western world. But their

frequency is less in the East [7]. Surface epithelial tumors form the main histological group not only in this analysis but also in other international studies [9].

More than one cell type is often seen. If the secondary cells type involve less than 10% of the tumor, it is classified according to the predominant cell type, while if it is more than 10% , it is classified as mixed epithelial tumor [4]. Among all the subtypes, only Brenner tumor shows a predominant stromal component. A total of 82 cases were studied in our present study. Out of which 67 (81.7%) were benign, 2 (2.4%) were borderline malignancy and 13 (15.9%). A study by Selvi et al also showed 72% benign, 2.5% borderline and 25.5% malignant which was in concordance with our study.

Histologically all patients who presented with ovarian tumors were studied. The tumors were classified according to WHO classification. Surface epithelial tumors are the commonest variety constituting 54.7%.

Conclusion

In our study, surface epithelial tumors comprised 54.7% of all ovarian tumors. The most common symptoms were abdominal pain and mass per abdomen, followed by menstrual irregularities. Most of the ovarian tumors were unilateral. Most of the benign tumors were cystic.

Histopathological study is still gold standard to diagnose most of the primary ovarian tumors. However it

may be supplemented by the newer techniques like IHC, morphometric analysis, flow cytometry for appropriate diagnosis.

References

1. Malli M, Vyas B, Gupta S, Desai H. A histological study of ovarian tumors in different age groups. *Int J Med Sci Public Health* 2014;3:338-41.
2. Yemelyanova AV, Vang, Judson K et al. Distinction of Primary and metastatic tumours involving the ovary. *Am J Surg Pathol* 2008;32(1):128-38.
3. Jindal U. Pattern of ovarian neoplasms in rural population. A five year study from tertiary care hospital. *J of evolution of med and dent sciences*. 2014 Feb;3(8):2033-9.
4. Kishanbookya, Kanya. Study of histomorphological patterns of ovarian tumours. *JSIR* 2015;4(3):117-20.
5. Thakkar N, Shah S. Histopathological study of ovarian lesions. *Int J Sci Res* 2015;6.4(10):67-85.
6. Novak et. al, Gynecologic and obstetric pathology with clinical and endocrine relation, 8th ed. W.B. saunders company 1979.p.721.
7. Herbst AL. The epidemiology of ovarian carcinoma and the current status of tumor markers to detect disease. *Am J ObstetGynecol* 1994;170:1099-105.
8. Edmondson RJ, Monaghan JM. The epidemiology of ovarian cancer. *Int J Gynecol Cancer* 2001;11:423-9.
9. Pilli GS, Suneeta KP, Dhaded AV, Yenni VV. Ovarian tumours: a study of 282 cases. *J Indian Med Assoc* 2002;100:420-4.